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Hepatitis B Immunization for Adolescents

IN 1991 AND 1992, the Centers for Disease Control and Prevention (CDC), the American Academy of Pediatrics, and the American Academy of Family Physicians presented new guidelines for the prevention of hepatitis B. These guidelines propose a broad-based immunization program that includes all newborns and others at high risk, including adolescents. The initial announcement was met with a flurry of controversy as parents and providers balked at adding three more immunizations to an already-crowded newborn immunization schedule.

This hesitancy was not based on a lack of respect for the disease. Hepatitis B causes substantial morbidity and mortality in this country. Each year 300,000 new cases are reported, with about 5% of these patients becoming a long-term carrier, increasing the risk of transmissibility and the development of hepatocellular carcinoma. The chances of the chronic carrier state developing is highest when the infection occurs in the newborn period; as many as 90% of infected newborns become carriers. Still, the disease is rare in childhood, and only about 1% of the reported cases occurs in children younger than 10 years.

A concern about the recommendations involves the lack of emphasis on adolescent immunization. Although the initial 22-page CDC recommendation included a statement on adolescents, all of the educational material and most of the press coverage focused on newborns. Adolescents are an important group, however, with about 25% of hepatitis B reported each year occurring between the ages of 10 and 20 years and about 5% of these teens becoming carriers. For these reasons, more teens than newborns become carriers each year, even though newborns have a higher conversion rate. Adolescents are important not only because of these health problems but also because they engage in more behaviors that transmit the disease. Any program that focuses on preventing disease in adolescents thus immediately decreases the risk of transmission.

Serious problems with adolescent immunization are cost and compliance. Adolescents require a full dose of the vaccine, which increases costs. In addition, the vaccine requires three separate immunizations. This increases costs (presumably a physician visit accompanies most of these immunizations) and decreases compliance (newborns receive other immunizations at the same time so additional trips are not needed).

Recent advances address the two problems with adolescent immunization programs. First, a growing number of insurance companies now cover the immunization for any patient younger than 20 years. This lowers the cost barrier. In addition, the CDC is conducting demonstration projects to determine the feasibility of a school-based immunization program. This would not only decrease the total costs of administering the vaccine, but would increase compliance because three visits to a physician would not be necessary.

Hepatitis B remains a serious health concern. Although the immunization of newborns helps to decrease the risk in the first decade of life, such a program has a minimal effect on the immediate problem because so few young children get the disease. The recent move to develop cost-effective methods for immunizing large numbers of adolescents will go far in ensuring that this high-risk group is protected. Until these programs are implemented, physicians caring for adolescents should offer this group the immunization along with advice regarding sexual abstinence or safer sex practices and the avoidance of illicit drugs.

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Breast Cancer in Pregnancy—A Diagnostic and Therapeutic Challenge

PREGNANCY-ASSOCIATED breast cancer, as defined by carcinoma of the breast diagnosed during pregnancy or within the first postpartum year, is the second most common malignant neoplasm in pregnancy after cervical cancer. Because women are delaying childbearing and breast cancer is occurring at an earlier age, the incidence is expected to increase. Of breast cancer patients younger than 30 years, 25% have been pregnant within the past year. The incidence of pregnancy-associated breast cancer is between 1 in 3,000 and 1 in 10,000 pregnancies.

Although these women have extensive contact with health care professionals, the diagnosis is usually delayed. Only a small percentage of patients are diagnosed and treated during pregnancy. The majority (80%) of patients are diagnosed within 12 weeks of delivery, but 50% of these patients had a mass noted during the pregnancy. The mean size of the tumor is 3.5 cm.

Unfortunately, making the diagnosis during pregnancy is fraught with difficulties. Normal changes associated with pregnancy, including the enlargement of the lobules, increases in the stroma, and hyperemia, serve to obscure the mass during pregnancy and breast-feeding. Ultrasonography should be used to identify cysts and galactoceles and to locate a discrete mass. Mammography, a mainstay of breast cancer surveillance, is of little assistance during pregnancy and lactation because of normal changes in the breast.

Biopsy should be considered the mainstay of diagnosis. In pregnant patients, open biopsy under local anesthesia should be done whenever possible. A fetal death rate of 1 per 134 was reported for breast biopsy done under general anesthesia. In lactating patients, biopsy has a high complication rate. Lactation should be stopped before an